We claim.

1. A method for the resolution of a racemic mixture of nucleoside enantiomers, comprising the step of exposing the racemic mixture to an enzyme that preferentially catalyzes a reaction in one of the enantiomers.

2. The method of claim 1, wherein the enzyme is selected from the group consisting of an esterase, a lipase, substillisin, α-chymotrypsin, and cytidine-deoxycytidine deaminase.

3. The method of claim 2, wherein the esterase is pig liver esterase

4. The method of claim 2, wherein the lipase is selected from the group consisting of porcine pancreatic lipas and Amano PS-800 lipase.

5. The method of claim 1, wherein the nucleoside enantiomers are acylated at the C5'-hydroxyl position.

6. The method of claim 5, wherein the enantiomers are acylated before resolution with a compound selected from the group consisting of alkyl carboxylic acids and substituted alkyl carboxylic acids.

7. The method of claim 6, wherein the alkyl carboxylic acid is selected from the group consisting of acetic acid, propionic acid, butyric acid, pentanoic acid, 2-chloropropionic acid, 2-chlorobutyric acid, and 2-chloropentanoic acid.

8. The method of claim 1, wherein the nucleoside enantiomers are passed through a column that includes the enzyme immobilized on a support.

9. The method of claim 1, wherein the enantiomers are mixed with the enzyme in a solution.

10. The method of claim 1, further comprising carrying out the enzymatic reaction in the presence of a non-ionic surfactant.

11. The method of claim 10, wherein the non-ionic surfactant is Triton X-100.

12. The method of claim 1, further comprising the step of exposing the product of resolution to a second enzyme that enhances the resolution.

13. The method of claim 1, further comprising recrystallizing the product of resolution.

14. The method of claim 1, further comprising treating the product of resolution with a chiral acid.

15. The method of claim 14, wherein the chiral acid is selected from the group consisting of malic acid, mandelic acid, dibenzoyl tartaric acid, 3-bromocamphor-8-sulfonic acid, 10-camphorsulfonic acid, and di-p-toluoyltartaric acid.

16. The method of claim 1, wherein the racemic mixture is selected from the group consisting of the 5'-O-ester and the unesterified (±)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane.

17. The method of claim 1, wherein the racemic mixture is selected from the group consisting of the 5'-O-ester and the unesterified 5'-O-ester of (±)-2-hydroxymethyl-5-(cytosin-1-yl)-1,3-oxathiolane.

18. The compound (-)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane.

19. The compound (+)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane.

20. A pharmaceutical composition consisting essentially of an effective amount to inhibit the replication of a virus in a human of a compound selected from the group consisting of (-)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, the monophosphate ester of (-)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, the diphosphate ester of (-)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, and the triphosphate ester of (-)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, or a pharmaceutically acceptable salt thereof, in combination with a pharmaceutically acceptable carrier.

21. The composition of claim 20, wherein the pharmaceutically acceptable carrier is selected from the group consisting of oil, water, saline, phosphate, buffer, polyethylene glycol, glycerine, propylene glycol, and combinations thereof.

22. The composition of claim 20, wherein the carrier comprises a controlled release formulation.

23. The composition of claim 20, wherein the carrier comprises a liposomal suspension.

24. The composition of claim 20, wherein the pharmaceutically acceptable carrier comprises a biodegradable implant.

25. The composition of claim 20 in a unit dosage form that delivers between 1 and 20 mg/kg bodyweight per dosage.

26. The composition of claim 20 that produces a serum concentration of compound of between approximately 0.2 and 20 μM.

27. The composition of claim 20 that produces a serum concentration of compound of between approximately 1.0 and 10 μM.

28. The composition of claim 20, further comprising a compound selected from the group consisting of an antibacterial agent, antifungal agent, chemotherapeutic agent, and another antiviral agent.

29. The composition of claim 20 wherein the amount of composition is effective to inhibit human immunodeficiency virus.

30. The composition of claim 20 wherein the amount of the composition is effective to inhibit hepatitis B virus.

31. A pharmaceutical composition consisting essentially of an effective amount to inhibit the replication of a virus in a human of a compound selected from the group consisting of (+)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, the monophosphate ester of (+)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, the diphosphate ester of

(+)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, and the triphosphate ester of (+)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, or a pharmaceutically acceptable salt thereof, in combination with a pharmaceutically acceptable carrier.

32. The composition of claim 31, wherein the pharmaceutically acceptable carrier is selected from the group consisting of oil, water, saline, phosphate, buffer, polyethylene glycol, glycerine, propylene glycol, and combinations thereof.

33. The composition of claim 31, wherein the carrier comprises a controlled release formulation.

34. The composition of claim 31, wherein the carrier comprises a liposomal suspension.

35. The composition of claim 31, wherein the pharmaceutically acceptable carrier comprises a biodegradable implant.

36. The composition of claim 31, in a unit dosage form that delivers between 0.1 and 100 mg/kg bodyweight per dosage.

37. The composition of claim 31 that produces a serum concentration of compound of between approximately 0.2 and 20 μM.

38. The composition of claim 31 that produces a serum concentration of compound of between approximately 1.0 and 10 μM.

39. The composition of claim 31, further comprising a compound selected from the group consisting of an antibacterial agent, antifungal agent, chemotherapeutic agent, and another antiviral agent.

40. The composition of claim 31 wherein the amount of composition is effective to inhibit human immunodeficiency virus.

41. The composition of claim 31 wherein the amount of the composition is effective to inhibit hepatitis B virus.

42. A method for inhibiting replication of HIV in cells comprising administering to a human an HIV inhibitory amount of a composition consisting essentially of a compound selected from the group consisting of (-)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, the monophosphate ester of (-)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, the diphosphate ester of (-)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, and the triphosphate ester of (-)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, or a pharmaceutically acceptable salt thereof, in combination with a pharmaceutically acceptable carrier.

43. A method for inhibiting replication of HIV in cells comprising administering to a human an HIV inhibitory amount of a composition consisting essentially of a compound selected from the group consisting of (+)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, the monophosphate ester of (+)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, the diphosphate ester of (+)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, and the triphosphate ester of (+)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, or a pharmaceutically acceptable salt thereof, in combination with a pharmaceutically acceptable carrier.

44. A method for inhibiting the replication of HBV in cells comprising administering to a human an HBV inhibitory amount of a composition consisting essentially of a compound selected from the group consisting of (-)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, the monophosphate ester of (-)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, the diphosphate ester of (-)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, and the triphosphate ester of (-)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, or a pharmaceutically acceptable salt thereof, in combination with a pharmaceutically acceptable carrier.

45. A method for inhibiting replication of HBV in cells comprising administering to a human an HBV inhibitory amount of a composition consisting essentially of a compound selected from the group consisting of (+)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, the monophosphate ester of (+)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, the diphosphate ester of (+)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, and the triphosphate ester of (+)-2-hydroxymethyl-5-(5-fluorocytosin-1-yl)-1,3-oxathiolane, or a pharmaceutically acceptable salt thereof, in combination with a pharmaceutically acceptable carrier.